



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,540	10/13/2000	Keith Balmer	TI-2601-I	8915

23494 7590 12/09/2003

TEXAS INSTRUMENTS INCORPORATED  
P O BOX 655474, M/S 3999  
DALLAS, TX 75265

EXAMINER
----------

TREAT, WILLIAM M

ART UNIT	PAPER NUMBER
----------	--------------

2183

DATE MAILED: 12/09/2003

2

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/687,540

Applicant(s)

BALMER ET AL.

Examiner

William M. Treat

Art Unit

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 13-18 is/are rejected.
- 7) ☒ Claim(s) 5-12 and 19-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Art Unit: 2183

1. Claims 1-20 are presented for examination.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 and 13-18 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fleck et al. (WO 99/14663).
4. Fleck taught the invention of exemplary claim 1 including a data processing system comprising a memory comprising a plurality of locations and a central processing unit core comprising at least one register file with a plurality of registers, said core connected to said memory for loading data from and storing data to said memory locations said core responsive to a load instruction to retrieve at least one data word from said memory and parse said at least one data word over selected parts of at least two data registers in said at least one register file, wherein the number of said at least two data registers is greater than the number of said at least one data word (Figs. 1-2 and page 6, line 17 through page 7, line 1).
5. As to claim 2, Fleck taught a load instruction in his system could either sign or zero extend the parsed data in said at least two data registers (page 6, lines 17-28).
6. As to claim 3, Fleck taught the parse comprises unpacking the lower and higher half-words of a data word into a pair of registers (page 6, lines 17-20).
7. As to claim 4, Fleck taught the situation wherein the at least one data word is two data words which are unpacked into 4 registers (page 8, lines 5-8).

Art Unit: 2183

8. As to claim 13, Fleck taught the invention of claim 13 including a data processing system comprising a memory comprising a plurality of locations and a central processing unit core comprising at least one register file with a plurality of registers, said core connected to said memory for loading data from and storing data to said memory locations said core responsive to a store instruction to concatenate data from selected parts of at least two data registers into at least one data word and save said at least one data word to said memory, wherein the number of said at least two data registers is greater than the number of said at least one data word (Figs. 1-2 and page 7, lines 16-21).

9. As to claim 14, Fleck taught the system of claim 13 wherein the system packs the lower half-words of two data registers into the lower and higher half-words of one data word (page 7, lines 16-21).

10. As to claim 15, Fleck taught the two data registers are an even/odd pair (page 7, lines 16-21).

11. As to claim 16, Fleck taught having an even and odd register set which could both be accessed by the same register number provided that the registers are adjacent (p. 5, lines 19-28). The examiner considers the two register sets to be the functional equivalents of the two register files of applicants, to the extent claimed.

12. As to claim 17, Fleck taught the concept of packing the lower half-words of four data registers into the lower and higher half-words of two data words (page 7, lines 16-21 and page 8, lines 5-8).

Art Unit: 2183

13. As to claim 18, Fleck taught the functional equivalent of two register files with even/odd register pairs in each register file with the same relative starting address (p. 5, lines 19-28 and page 8, lines 5-8).

14. The drawings are objected to under 37 CFR 1.83(a) because they fail to show Fig. 9 as described in the specification on page 19, line 29 through page 20, line 6. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

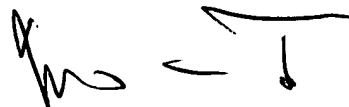
15. Claims 5-12 and 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

17. Thayer et al. (Patent No. 5,909,572).

18. Peleg et al. (Patent No. 6,119,216).

19. Any inquiry concerning this communication should be directed to William M. Treat at telephone number 703 305 9699. The examiner works at home on Fridays but may normally be reached on Fridays by leaving a voice message using his office phone number. The examiner also works a flexible schedule but may normally be reached in the afternoon and evening on three of the four remaining weekdays.



**WILLIAM M. TREAT  
PRIMARY EXAMINER**